



November 8, 2013

Ms. Kimberly Tisa
PCB Coordinator
U.S. Environmental Protection Agency Region 1
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

RE: PCB Remediation Plan under 40 CFR 761.61(a) and (c)
Harvard University – William James Hall Roof
Cambridge, Massachusetts

Dear Ms. Tisa:

On behalf of the President and Fellows of Harvard College (Harvard) acting by and through Environmental Health & Safety, this PCB Remediation Plan has been prepared for the proposed remediation of polychlorinated biphenyls (PCBs) in roof sealants at select exterior roof locations associated with a planned roof replacement project at the William James Hall building, located at 33 Kirkland Street in Cambridge, Massachusetts. A photograph of the building is provided at the right.

This plan details the proposed remedial approach for the removal and off-site disposal of PCB bulk product waste (caulking) and PCB impacted building materials, and a proposed 40 CFR 761.61(a) and (c) approach for verification and remediation of adjacent building materials scheduled to remain in place and at which extensive concrete removals cannot be conducted for structural reasons.

The key components of the remedial approach include complete removal of PCB-containing caulking and certain building materials which are “coated” or in direct contact with the caulking as ≥ 50 part per million (ppm) PCB bulk product waste. Masonry surfaces in direct contact with the caulking will be subject to limited removals (surficial grinding) pending review from a structural standpoint. Following limited removals, verification sampling of the masonry will be conducted to determine whether materials remaining in place meet target cleanup levels. If cleanup levels are not met, then an in-place management approach will be implemented (i.e., application of a liquid encapsulant and/or physical barrier). Given the need to repair the roof in the work areas immediately following removal of PCB-containing sealants, the encapsulation step will be implemented immediately after the removals and prior to receipt of the laboratory testing data. All PCB-containing materials removed from the building will be transported for proper off-site disposal as a ≥ 50 ppm PCB waste and MA02 Massachusetts hazardous waste.

It is Harvard’s intent that work described in this document will be completed as an abatement activity prior to the roof replacement project. Additional details regarding the proposed scope of work and materials management approach are provided below.



William James Hall



Background

William James Hall is a 15-story masonry building. The building is currently used by Harvard's Departments of Psychology, Sociology and Social Anthropology for classroom and office spaces. The building was constructed in 1964, during a timeframe when certain hazardous materials, including asbestos containing materials (ACM), lead-based paint (LBP), and PCBs, were sometimes used in standard construction materials. The planned renovation activities will involve replacing the existing roof membrane and selective repairs at existing roof features and masonry joints.

Roof Construction Details

William James Hall is a concrete masonry building containing a flat membrane roof that was most recently replaced in 1986. The central portion of the roof contains an inner wall constructed out of a concrete stucco aggregate that encloses the penthouse and mechanical equipment area. The mechanical enclosure wall contains a small louver and a door on the south façade, and one door on the east façade. The roof also contains several other mounted HVAC and electrical units.

Source Material Characterization

During the planning phases of the project, Woodard & Curran visually surveyed and sampled representative caulking and sealants observed on the William James Hall roof. Twelve samples of observed caulking or sealants were collected for PCB analysis. Samples were transported to Alpha Analytical Laboratory under standard chain of custody procedures, extracted using USEPA Method 3540C (Soxhlet) and analyzed for PCBs by USEPA Method 8082. Samples were also collected for asbestos analyses by Environmental Health, Inc. (EHI). Asbestos samples were transported to Asbestos Identification Laboratory of Woburn, Massachusetts under chain of custody and analyzed for asbestos by polarized light microscopy (PLM) methods.

PCBs were reported at concentrations > 1 ppm in 9 out of 12 samples submitted for analysis; 4 of these samples were reported with PCBs ≥ 50 ppm (50, 229, 443 and 1,041 ppm). Asbestos was not detected in any of the samples submitted for analysis. A summary of the sample results is presented on Table 1 with sample locations shown on Figure 1. The laboratory analytical reports are provided in Attachment 1.

As indicated on Table 1, all four samples with PCBs ≥ 50 ppm are associated with the mechanical equipment penthouse enclosure. The characterization data resulted in the identification of three areas that will be remediated prior to the roof replacement project. These three areas have been identified as follows with detailed descriptions provided on the following pages.

- Area 1 – Penthouse Perimeter Caulking, Flashing, and Membrane
- Area 2 – Penthouse Expansion Joint Caulking
- Area 3 – Penthouse Louver Joint Caulking

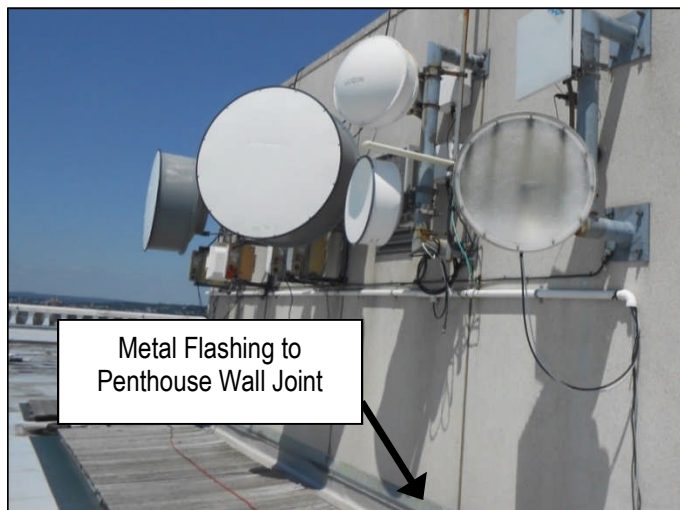
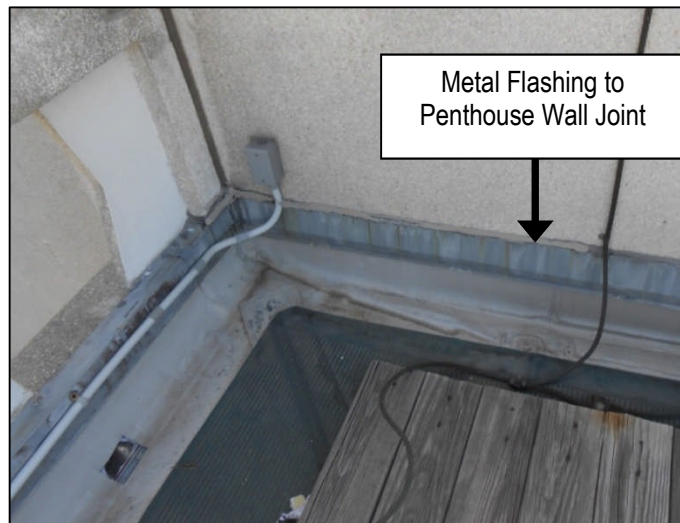
It should be noted that none of the main roof caulking or sealants detected PCBs ≥ 50 ppm; however, Harvard has decided to remove any sealants reported as > 1 ppm total PCBs and identified on the main roof membrane or penthouse enclosure membrane during the remediation of the three ≥ 50 ppm areas. This activity is being completed prior to the roof replacement activity and all removed sealants will be disposed of with the ≥ 50 ppm sealants to be removed under this Plan.

To date, no samples of masonry have been collected for PCB analyses; however, it is assumed that given the PCB concentrations in the ≥ 50 ppm PCB material, some residual levels of PCBs may be present in the concrete. This Plan presents a remedial approach to manage the adjacent concrete after removal of the source materials.



Area 1 – Penthouse Perimeter Caulking, Flashing, and Membrane

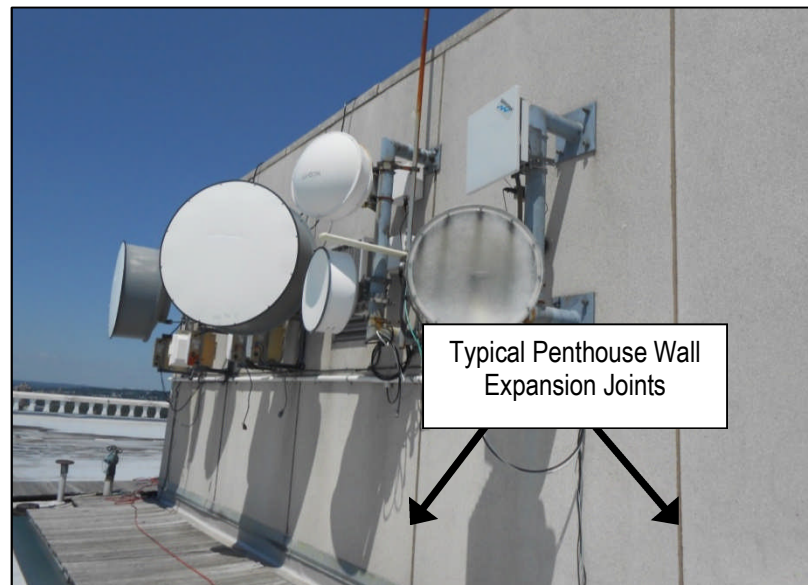
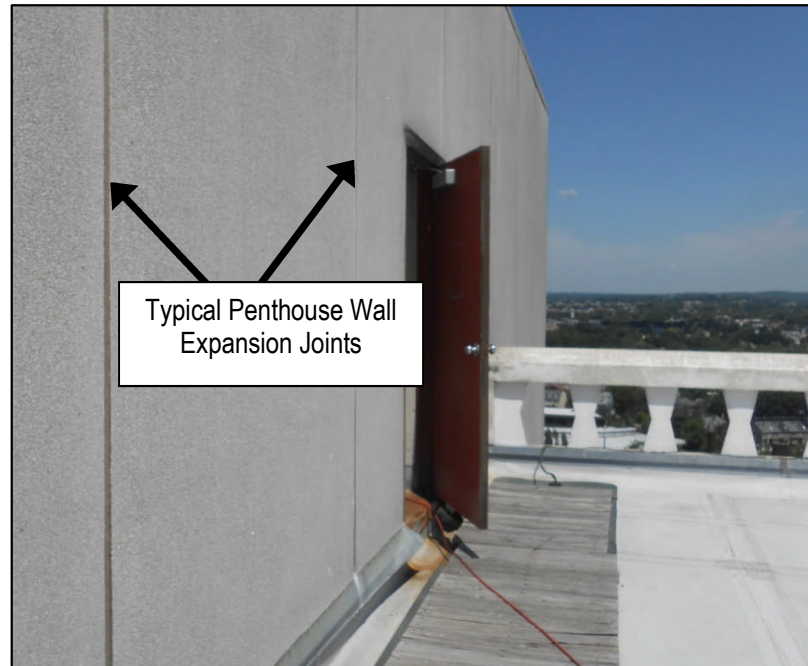
- **PCBs:** **PCB \geq 50 ppm;** four samples from multiple caulking types at metal flashing to concrete wall joint (inner wall and outer wall samples); PCBs reported at non-detect, 46.1 ppm, 50 ppm, and 443 ppm
- **Asbestos:** **Non-detect;** four samples tested negative for asbestos.
- **Quantity:** **290 linear feet (l.f.);** double-bead of caulking, metal flashing, and membrane beneath flashing at inner and outer perimeter of roof penthouse.
- **Remedial Approach Summary:**
 - Remove caulking, metal flashing, and membrane beneath flashing at inner and outer perimeter of roof penthouse for off-site disposal as \geq 50 ppm PCB waste (cut membrane at lower edge of flashing for patching).
 - Perform limited masonry removals via grinding as described in “Remediation Approach” below.
 - Apply quick-cure epoxy over former direct contact area (assume 1 ft width over 290 l.f.)
 - Roof repair or patching to be completed by Harvard’s roofing contractor





Area 2 – Penthouse Expansion Joint Caulking

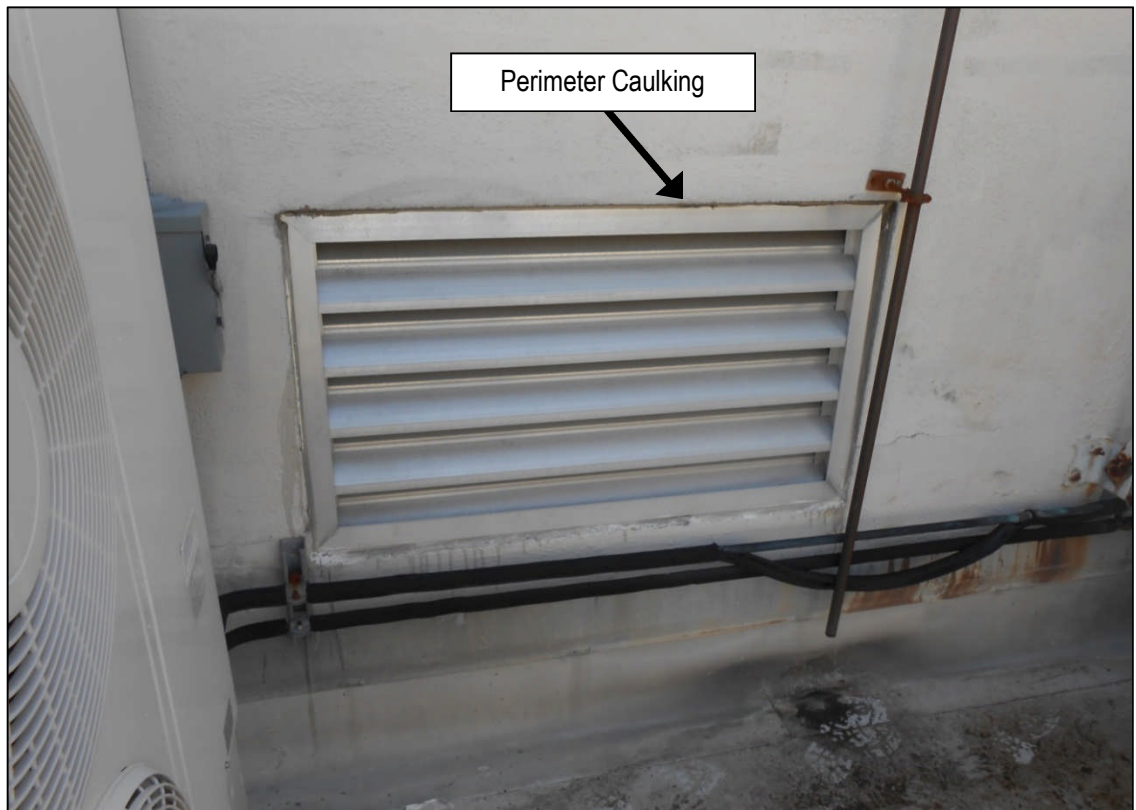
- **PCBs:** **PCB ≥ 50 ppm**; one sample from caulking at penthouse wall expansion joints; PCBs reported at 1,041 ppm
- **Asbestos:** **Non-detect**; one sample tested negative for asbestos.
- **Quantity:** **270 l.f.**; includes accessible joints from main roof (within limits of outer perimeter parapet wall).
- **Remedial Approach Summary:**
 - Remove caulking for off-site disposal as ≥ 50 ppm PCB waste.
 - Perform limited masonry removals via grinding as described in “Remediation Approach” below.
 - Apply quick-cure epoxy within joint returns (270 l.f.)
 - New caulking to be applied by Harvard’s roofing contractor





Area 3 – Louver Joint Caulking on Penthouse Wall

- **PCBs:** **PCB \geq 50 ppm;** one sample from single caulking type at metal louver wall perimeter joint (within enclosure); PCBs reported at 229 ppm
- **Asbestos:** **Non-detect;** one sample tested negative for asbestos.
- **Quantity:** **10 l.f.;** includes single louver within enclosure as shown in photo below.
- **Remedial Approach Summary:**
 - Remove caulking and louver for off-site disposal as \geq 50 ppm PCB waste.
 - Perform limited masonry removals via grinding as described in “Remediation Approach” below.
 - Apply quick-cure epoxy around perimeter (10 l.f.)
 - New louver and caulking to be applied by Harvard’s roofing contractor





Remediation Approach

As part of the proposed roof replacement, the current roof membrane, roof penetration sealants for equipment, ducts, etc., and membrane flashing will be removed and replaced with a new roof membrane and sealant. Prior to the full-scale roof replacement project, three areas with PCB-containing materials will be remediated, as needed. A description of the proposed activities is provided in the following paragraphs.

The work will be performed by a remediation contractor trained in the abatement of PCB-containing materials. Prior to performing the work, the contractor will prepare a health & safety plan (HASP) specific to the work activities. At a minimum, this health & safety plan will specify that all workers are to comply with applicable Federal and State regulations regarding the work activities, including but not limited to OSHA regulations, respiratory protection, and the use of appropriate personal protective equipment (PPE).

The contractor will also prepare a brief work plan detailing the proposed means and methods for performing the work, including proposed site setup and engineering controls, proposed tools and techniques to be used for each activity, sequence of work, equipment and waste storage locations / staging areas, and a proposed disposal facility. To reduce particulate levels and exposures to airborne particulates, a combination of engineering controls (e.g., work zone enclosures, wetting, etc.) and PPE will be implemented as part of the work activities. Access to the active work areas will be controlled by the contractor through, fencing, posting of signs, or other equivalent means as needed.

PCB Waste Removals

All materials removed from each area will be managed as a ≥ 50 ppm PCB waste and MA02 Massachusetts hazardous waste. Where masonry building materials in direct contact with PCB ≥ 50 ppm caulking are scheduled to remain in place, then the proposed remediation approach for the concrete or stucco masonry includes a limited bulk removal approach (i.e., surficial grinding) with a contingency for in-place management (encapsulation) if target cleanup levels cannot be achieved within tolerable limits of material removal. Larger-scale bulk removal of these materials is not considered to be a feasible option given structural and weatherproofing concerns that do not allow extensive concrete cuts/removal from these areas (e.g., removal of concrete from the joints would result in joints too large to continue to function in their current design).

Concrete or stucco masonry in former direct contact with the caulking will be subject to surficial masonry grinding to an extent such that residual caulking and/or staining has been removed from the surfaces. Waste generated from the masonry grinding process will be managed as PCB waste ≥ 50 ppm with the caulking.

Upon the completion of the surficial grinding activities, Woodard & Curran will visually inspect the work areas to document and inspect the extent of the removals. Post-removal masonry verification samples will be collected from the underlying materials formerly in direct contact with the caulking/sealants (e.g., within the return of the joint) to assess residual PCB concentrations in the material remaining in place. Samples will be collected from a depth of 0 to 0.5 inches in accordance with the EPA Region I Standard Operating Procedure for Sampling Porous Surfaces for PCBs (Revision 4, May 2011). Samples will be transported on ice under chain of custody protocols to a laboratory for extraction by USEPA Method 3540C (Soxhlet Extraction) and PCB analysis by USEPA Method 8082.

With regard to an applicable clean-up level for the roof, the low-occupancy cleanup level of 25 ppm for bulk PCB Remediation Waste is proposed as an applicable criteria for the concrete scheduled to remain in place given that the roof is not a continuously occupied space and is locked with restricted access; as such, occupancy for an individual will be less than 335 hours per year (less than an average of 6.7 hours/week).

Given the project-specific conditions (roof location, restricted access, concrete along roof membrane flashing or control joints), a variance from the Subpart O verification requirements is proposed under 40 CFR 761.61(c), as the sampling frequency presented herein will provide a reasonable and adequate representation of the concrete subject to potential remediation, as described below.



Verification samples will be collected from the underlying materials to assess residual PCB concentrations in the material remaining in place, as follows:

- Area 1: 1 sample per inner and outer wall of the enclosure (6 inner walls and 3 outer walls); 9 samples over 290 l.f of material or 1 sample per every 32 ft.
- Area 2: 1 sample per every 45 ft of control joint; 6 samples over the 270 feet of joint.
- Area 3: 1 sample from the 10 ft of louver perimeter.

As such, a total of 16 primary samples and two quality assurance samples (one field blank and one duplicate) will be collected for PCB analyses.

In-Place Management by Encapsulation Contingency

Given the need to repair the roof in the work areas immediately following removal of PCB-containing sealants, the encapsulant step will be implemented immediately after the removals and prior to receipt of the laboratory bulk samples. Surfaces in former direct contact with removed source materials will be encapsulated with a quick-cure protective epoxy coating such as Devcon 5, or equivalent approved coating in order to eliminate potential PCB migration pathways from materials remaining in place. These materials will then be temporary patched/repared to prevent any leaks or other issues with the "open" joints. Ultimately, these areas will be covered by the new roof membrane, new caulking in the control joints, and/or a new louver and perimeter caulking.

After encapsulation, four baseline surface wipe samples will be collected from the epoxy-encapsulated surfaces to evaluate the effectiveness of the encapsulation and establish a baseline for future monitoring, if needed. The samples will be collected from the following areas: Area 1 - 2 samples (1 from an inner wall and 1 from an outer wall); Area 2 - 2 samples (from 2 control joints); and Area 3 - 1 sample from the louver perimeter. Wipe samples will be collected using hexane-saturated gauze wipes in accordance with the standard wipe test method (40 CFR 761.123).

Upon receipt of the bulk material verification sample data, the results will be compared to the 25 ppm cleanup level. If PCBs are below 25 ppm, then no follow-up actions will be conducted (however, the coatings will remain as the repair activities or new caulking will have already been installed over the coated surfaces).

If the bulk results are reported with PCBs > 25 ppm, the following actions will be taken:

- The wipe samples collected from the encapsulated surfaces will be submitted for laboratory analysis of PCBs, as the encapsulation approach will be warranted as a remediation technique; analytical results from the wipe samples will be evaluated in comparison to a 1 µg/100 cm² target level; and
- Lateral delineation samples will be collected to determine the extent of PCBs > 25 ppm in non-direct contact surfaces away from the joint; samples will be collected at the same frequencies described above for the direct contact verification samples (only in areas with direct contact samples in excess of 25 ppm).

EPA will be notified of any results > 25 ppm and alternate plans (e.g., clear coating application, risk-based evaluation of the actual detected results, etc.) will be evaluated in the context of the structural considerations of the building.

Decontamination and Off-Site Disposal

Wet wiping, spraying, and/or vacuuming of tools and equipment in the work area will be performed at the completion of the work activity. At the completion of the project, any non-disposable equipment and tools that handled PCB material will be decontaminated following the procedures described in 40 CFR 761.79.



Any removed caulking, coated adjacent materials, or other debris collected within the polyethylene controls will be gathered and placed in the appropriate waste containers at the end of each work day. After use, disposable PPE, poly sheeting, and other non-liquid materials generated during the work will be placed in the same containers as the PCB waste for disposal. PCB ≥ 50 ppm wastes will be stored on-site in secure, lined, and covered waste containers such as 55-gallon DOT-approved steel containers, cubic yard boxes, roll-offs, or equivalent approved containers staged for the collection of PCB wastes in accordance with 40 CFR 761.65. PCB waste containers will be properly labeled and marked in accordance with 40 CFR 761.40, and include hazardous waste labels, including the Massachusetts Hazardous Waste MA-02 classification.

The waste will be transported off-site for disposal ≥ 50 ppm PCB waste to an out-of-state hazardous waste landfill permitted to accept 40 CFR 761-regulated materials and Massachusetts hazardous waste (e.g., the Chemical Waste Management facility in Model City, New York, or equivalent). Copies of all waste shipment records will be collected from the contractor and maintained as part of the project record.

Recordkeeping and Additional Activities

Following completion of the work activities, records and documents per 40 CFR 761 will be generated and maintained at one location. A final report documenting the completion of the work activities, verification analytical results, volumes of disposed materials, and waste disposal records will be prepared and submitted to EPA.

If PCBs remain on-site at concentrations exceeding the 25 ppm target cleanup level beneath an in-place management system (i.e., an epoxy coating and new caulking and roof system), these conditions will be documented in a Monitoring and Maintenance Implementation Plan (MMIP). The MMIP will also outline the long-term monitoring requirements associated with the encapsulated materials. This MMIP will be submitted to EPA for review following completion of the removal activities.

In addition, a deed notice will be prepared and recorded to document any residual levels of PCBs remaining at these locations at concentrations in excess of the unrestricted use cleanup levels.

Schedule

These work activities are scheduled to commence in November 2013.

The required certification from the property owner and party conducting the cleanup is provided on the following page.

If you have any comments, questions, or require further information, please do not hesitate to contact me at the number listed above.

Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in black ink, reading "Jeffrey A. Hamel".

Jeffrey A. Hamel, LSP, LEP
Senior Vice President

Enclosures: Table 1 – Bulk Caulking and Sealant Results
 Figure 1 – Characterization Sample Locations
 Attachment 1 – Laboratory Analytical Reports

Cc: MassDEP NERO
 Aaron Townsley, Harvard EH&S



Certification

Harvard hereby certifies that all the sampling plans, sample collection procedures, sample preparation procedures, extraction procedures and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site, are on file at the Harvard's Environmental, Health, & Safety office and available for EPA inspection.

Property Owner and Party Conducting the Cleanup

President and Fellows of Harvard College acting by and through Environmental, Health, & Safety:

Kelly J McQueeney
Associate Director Project
Support Services & Remediation for
Environmental, Health, & Safety

11/8/13
Date

** Please note that Kelly McQueeney for Environmental, Health, & Safety is certifying this document on behalf of the President and Fellows of Harvard College, and not as an individual.*

Table 1
Bulk PCB and Asbestos Results
William James Hall - Harvard University

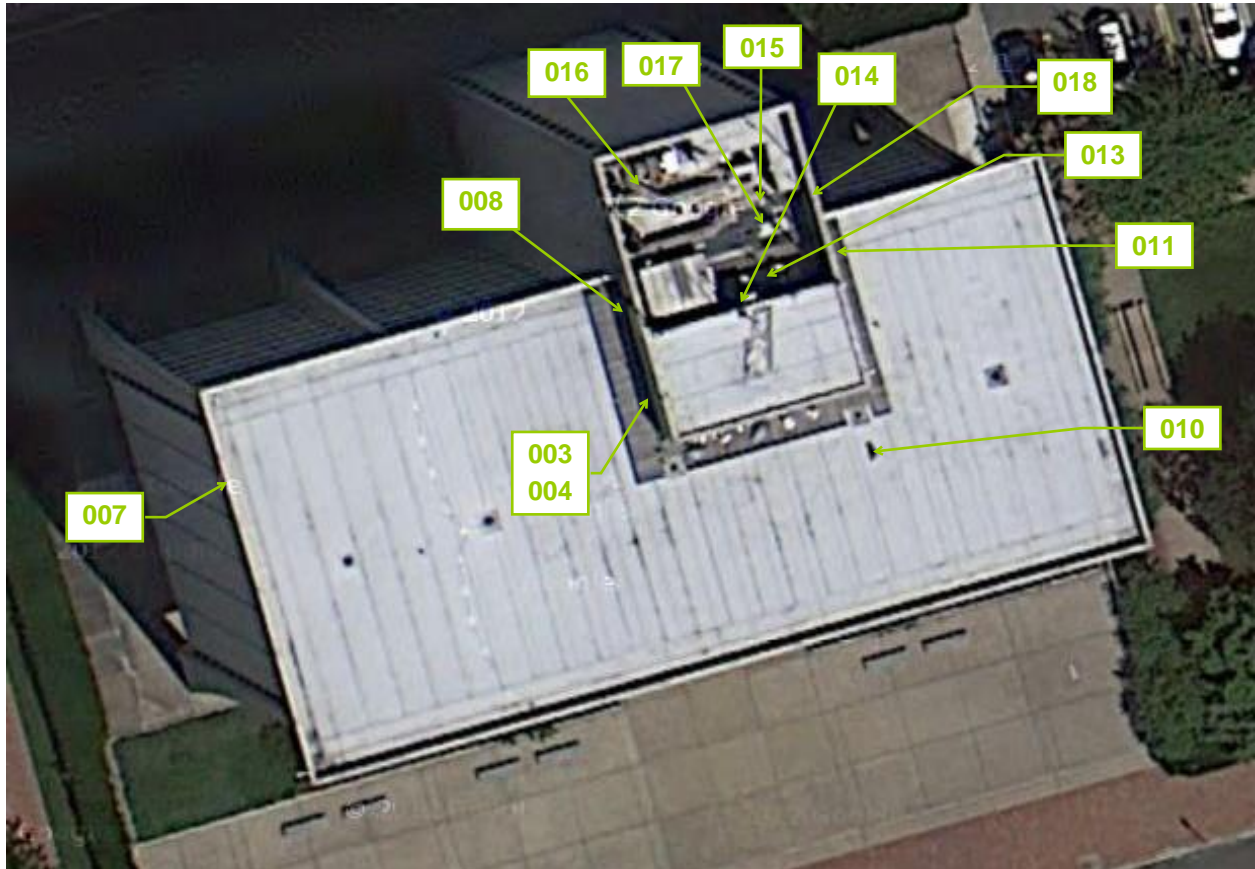
Roof Component	Location	Physical Description	Joint Type	Sample Date	Sample ID	Asbestos	PCB Reporting Limit (mg/kg)	Aroclor 1254 (mg/kg)	Aroclor 1248 (mg/kg)	Total PCBs (mg/kg)	Notes
Mechanical Equipment Penthouse Enclosure	Roof Membrane Sealant and Flashing	Type K - Greenish-tan, soft, flexible over Type L - gray, moderately soft, moderately flexible sealant	Metal flashing to concrete aggregate panel, outer western enclosure wall	06/20/13	WJH-CBK-004	ND	13.9	129	314	443	Predominant at metal flashing to concrete penthouse wall joints
		Type O over Type I - Tan, moderately hard, not very flexible	Metal flashing to concrete stucco, inner eastern enclosure wall	06/20/13	WJH-CBK-018	ND	2.19	50	ND	50	Predominant at metal flashing to concrete penthouse wall joints
		Type K over Type L over Type I - Tan, moderately hard, not very flexible	Metal flashing to concrete aggregate panel, outer western enclosure wall	06/20/13	WJH-CBK-008	ND	0.726	ND	ND	ND	Predominant at metal flashing to concrete penthouse wall joints
		Type M - Black, soft sealant over Type N - gray, moderately soft, moderately flexible sealant	Concrete aggregate panel to rubber membrane beneath flashing, outer eastern enclosure wall	06/20/13	WJH-CBK-011	ND	3.03	14.3	31.8	46.1	Observed beneath one area of metal flashing; most likely predominant beneath metal roof flashing
	Concrete Panel Joints	Type H - Light gray, moderately soft, moderately flexible with apparent newer caulking overlay	Concrete aggregate panel to concrete aggregate panel (vertical joint), outer western enclosure wall	06/20/13	WJH-CBK-003	ND	42.2	529	512	1,041	Multi-layers observed at concrete panel to concrete panel joints
	Metal Louver to Concrete	Type E - Off-white, soft, flexible	Metal louver to concrete stucco, penthouse wall inside enclosure	06/20/13	WJH-CBK-014	ND	11	229	ND	229	Limited volume; observed at perimeter of one metal louver
Misc. Roof Equipment and Features	Roof Membrane, Equipment, Pipe Penetrations and Ducts	Type F - Clear, soft, flexible	Metal equipment duct to metal roof flashing, mechanical equipment area	06/20/13	WJH-CBK-016	ND	1.2	1.7	2.04	3.74	Limited volume
			Metal electrical roof penetration pipe to metal bracket and rubber membrane, mechanical equipment area	06/20/13	WJH-CBK-015	ND	0.612	2.08	ND	2.08	Limited volume; observed at select roof penetration joints
		Type D - Black, soft, flexible (tar material)	Metal electrical roof penetration pipe to rubber membrane, mechanical equipment area	06/20/13	WJH-CBK-017	ND	1.1	7.83	15	22.8	Moderate volume; observed at select roof penetration joints
		Type D over Type C	Metal duct vent to metal duct vent, main roof area	06/20/13	WJH-CBK-010	ND	0.492	0.607	ND	0.607	Observed at one metal duct;
		Type G - Dark brown, soft, flexible	Metal roof penetration pipe to metal bracket and rubber membrane, mechanical equipment area	06/20/13	WJH-CBK-013	ND	0.667	4.00	ND	4.00	Limited volume; observed at select roof penetration joints
		Type C - Gray, moderately soft, moderately flexible	Metal flashing to western concrete parapet wall	06/20/13	WJH-CBK-007	ND	1.2	ND	ND	ND	Predominant at metal flashing to concrete parapet wall joints

Notes:

1. Survey activities were limited to suspect sealants accessible on the date of the survey (June 20, 2013).
2. For asbestos samples listed as ND, the lab reported these results as 100% non-asbestos.
3. Laboratory samples were extracted by Soxhlet (Method 3540C) and analyzed for PCBs by Method 8082
4. ND = Not detected above minimum reporting limit.
5. All PCB analytical results have been qualified as estimated based on data validation.

FIGURE 1

William James Hall Roof

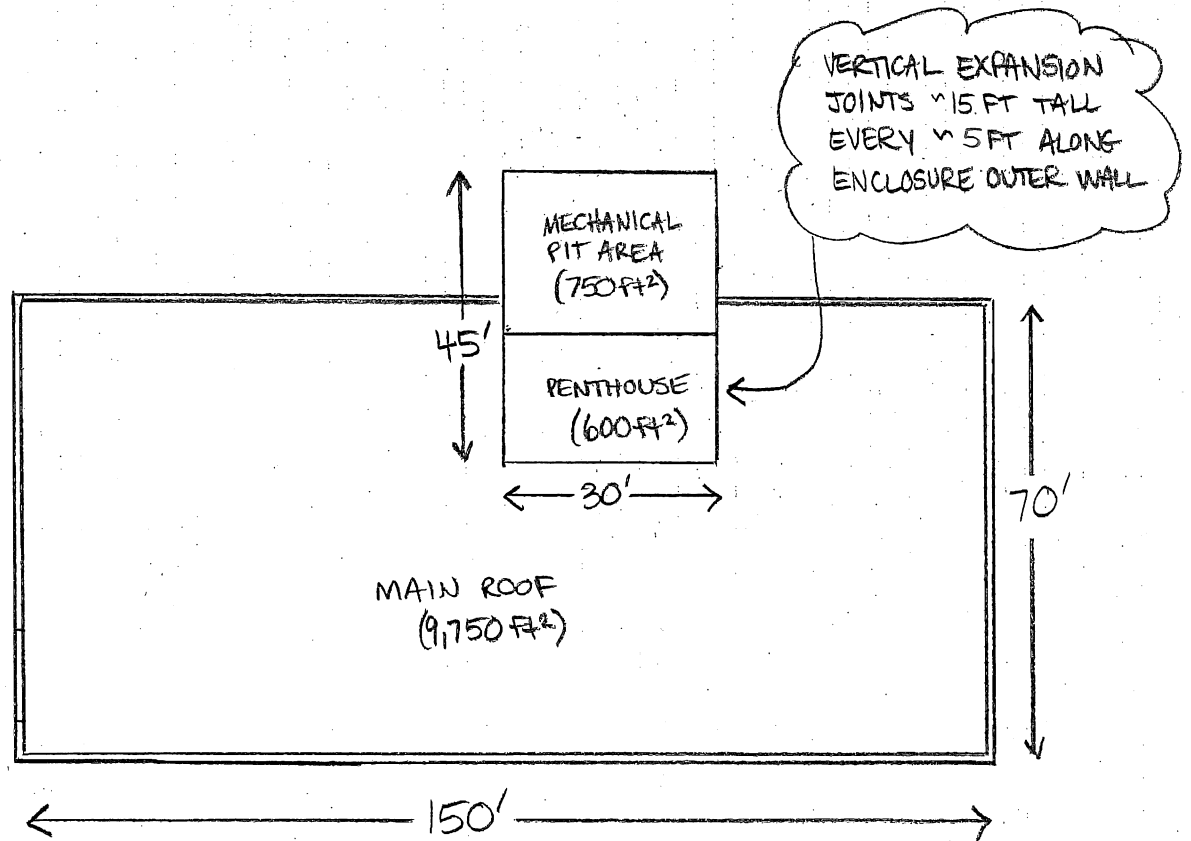


003 = SAMPLE LOCATION
AND IDENTIFIER



41 HUTCHINS DRIVE
PORTLAND, MAINE 04102
TEL. (207) 774-2112
FAX (207) 774-6635

CLIENT HARVARD
PROJECT WILLIAM JAMES HALL
DESIGNED BY _____ DATE 9/5/13
CHECKED BY _____ DATE _____
PROJECT NO. 226574 SHEET NO. _____ OF _____





**ATTACHMENT 1: LABORATORY ANALYTICAL
REPORTS**



ANALYTICAL REPORT

Lab Number:	L1313962
Client:	Woodard & Curran 41 Hutchins Drive Portland, ME 04102
ATTN:	Amy Martin
Phone:	(207) 774-2112
Project Name:	WILLIAM JAMES HALL
Project Number:	226574
Report Date:	09/03/13

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1313962-01	WSH-CBK-003	CAMBRIDGE, MA	06/20/13 10:05
L1313962-02	WSH-CBK-004	CAMBRIDGE, MA	06/20/13 10:15
L1313962-05	WSH-CBK-007	CAMBRIDGE, MA	06/20/13 10:35
L1313962-06	WSH-CBK-008	CAMBRIDGE, MA	06/20/13 10:45
L1313962-08	WSH-CBK-010	CAMBRIDGE, MA	06/20/13 11:00
L1313962-09	WSH-CBK-011	CAMBRIDGE, MA	06/20/13 11:05
L1313962-11	WSH-CBK-013	CAMBRIDGE, MA	06/20/13 11:15
L1313962-12	WSH-CBK-014	CAMBRIDGE, MA	06/20/13 11:20
L1313962-13	WSH-CBK-015	CAMBRIDGE, MA	06/20/13 11:30
L1313962-14	WSH-CBK-016	CAMBRIDGE, MA	06/20/13 11:35
L1313962-15	WSH-CBK-017	CAMBRIDGE, MA	06/20/13 11:40
L1313962-16	WSH-CBK-018	CAMBRIDGE, MA	06/20/13 11:45
L1313962-17	WSH-CBKD-019	CAMBRIDGE, MA	06/20/13 10:10

Project Name: WILLIAM JAMES HALL

Lab Number: L1313962

Project Number: 226574

Report Date: 09/03/13

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples free of charge for 30 days from the date the project is completed. After 30 days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

Case Narrative (continued)

MCP Related Narratives

PCBs

L1313962-06 and -13 have elevated detection limits due to the dilutions required by matrix interferences encountered during the concentration of the samples.

In reference to question G:

One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The surrogate recoveries for L1313962-01, -03, -09, and -17 are below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene and decachlorobiphenyl (all 0%) due to the dilutions required to quantitate the samples.

Re-extraction was not required; therefore, the results of the original analyses are reported.

The surrogate recoveries for L1313962-04 were below the acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (14%/14%) and decachlorobiphenyl (12%/12%); however, re-extraction could not be performed due to lack of additional sample. The results of the original analysis are reported; however, all associated compounds are considered to have a potentially low bias.

L1313962-10: The internal standard (IS) response for 1-Bromo-2-Nitrobenzene was above the acceptance criteria; however, the sample was not re-analyzed due to obvious interferences. A copy of the chromatogram is included as an attachment to this report. Since the IS response was above method criteria, all associated compounds are considered to have a potentially low bias.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Cynthia McQueen

Title: Technical Director/Representative

Date: 09/03/13

ORGANICS

PCBS

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-01 **D**
Client ID: WSH-CBK-003
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/29/13 11:55
Analyst: KB
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 10:05
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 08/28/13 05:21
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/28/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/28/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	42200	--	20	A
Aroclor 1221	ND		ug/kg	42200	--	20	A
Aroclor 1232	ND		ug/kg	42200	--	20	A
Aroclor 1242	ND		ug/kg	42200	--	20	A
Aroclor 1248	512000		ug/kg	28200	--	20	B
Aroclor 1254	529000		ug/kg	42200	--	20	A
Aroclor 1260	ND		ug/kg	28200	--	20	A
Aroclor 1262	ND		ug/kg	14100	--	20	A
Aroclor 1268	ND		ug/kg	14100	--	20	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-02 **D**
Client ID: WSH-CBK-004
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/29/13 12:07
Analyst: KB
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 10:15
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 08/28/13 05:21
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/28/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/28/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	13900	--	5	A
Aroclor 1221	ND		ug/kg	13900	--	5	A
Aroclor 1232	ND		ug/kg	13900	--	5	A
Aroclor 1242	ND		ug/kg	13900	--	5	A
Aroclor 1248	314000		ug/kg	9260	--	5	A
Aroclor 1254	129000		ug/kg	13900	--	5	A
Aroclor 1260	ND		ug/kg	9260	--	5	A
Aroclor 1262	ND		ug/kg	4630	--	5	A
Aroclor 1268	ND		ug/kg	4630	--	5	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	108		30-150	A
Decachlorobiphenyl	107		30-150	A
2,4,5,6-Tetrachloro-m-xylene	112		30-150	B
Decachlorobiphenyl	107		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-05
Client ID: WSH-CBK-007
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/30/13 12:45
Analyst: JW
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 10:35
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/29/13 11:12
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/30/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	1200	--	1	A
Aroclor 1221	ND		ug/kg	1200	--	1	A
Aroclor 1232	ND		ug/kg	1200	--	1	A
Aroclor 1242	ND		ug/kg	1200	--	1	A
Aroclor 1248	ND		ug/kg	800	--	1	A
Aroclor 1254	ND		ug/kg	1200	--	1	A
Aroclor 1260	ND		ug/kg	800	--	1	A
Aroclor 1262	ND		ug/kg	400	--	1	A
Aroclor 1268	ND		ug/kg	400	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	A
Decachlorobiphenyl	59		30-150	A
2,4,5,6-Tetrachloro-m-xylene	51		30-150	B
Decachlorobiphenyl	58		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-06
Client ID: WSH-CBK-008
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/30/13 12:58
Analyst: JW
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 10:45
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/29/13 11:12
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/30/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	726	--	3	A
Aroclor 1221	ND		ug/kg	726	--	3	A
Aroclor 1232	ND		ug/kg	726	--	3	A
Aroclor 1242	ND		ug/kg	726	--	3	A
Aroclor 1248	ND		ug/kg	484	--	3	A
Aroclor 1254	ND		ug/kg	726	--	3	A
Aroclor 1260	ND		ug/kg	484	--	3	A
Aroclor 1262	ND		ug/kg	242	--	3	A
Aroclor 1268	ND		ug/kg	242	--	3	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	44		30-150	A
Decachlorobiphenyl	51		30-150	A
2,4,5,6-Tetrachloro-m-xylene	43		30-150	B
Decachlorobiphenyl	59		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-08
Client ID: WSH-CBK-010
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/30/13 13:24
Analyst: JW
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:00
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/29/13 11:12
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/30/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	492	--	1	A
Aroclor 1221	ND		ug/kg	492	--	1	A
Aroclor 1232	ND		ug/kg	492	--	1	A
Aroclor 1242	ND		ug/kg	492	--	1	A
Aroclor 1248	ND		ug/kg	328	--	1	A
Aroclor 1254	607		ug/kg	492	--	1	A
Aroclor 1260	ND		ug/kg	328	--	1	A
Aroclor 1262	ND		ug/kg	164	--	1	A
Aroclor 1268	ND		ug/kg	164	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	51		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	47		30-150	B
Decachlorobiphenyl	52		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-09 D
 Client ID: WSH-CBK-011
 Sample Location: CAMBRIDGE, MA
 Matrix: Caulk
 Analytical Method: 97,8082A
 Analytical Date: 08/30/13 23:24
 Analyst: JW
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:05
 Date Received: 07/24/13
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/29/13 11:12
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/30/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	3030	--	10	A
Aroclor 1221	ND		ug/kg	3030	--	10	A
Aroclor 1232	ND		ug/kg	3030	--	10	A
Aroclor 1242	ND		ug/kg	3030	--	10	A
Aroclor 1248	31800		ug/kg	2020	--	10	B
Aroclor 1254	14300		ug/kg	3030	--	10	A
Aroclor 1260	ND		ug/kg	2020	--	10	A
Aroclor 1262	ND		ug/kg	1010	--	10	A
Aroclor 1268	ND		ug/kg	1010	--	10	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

SAMPLE RESULTS

Lab ID: L1313962-11
 Client ID: WSH-CBK-013
 Sample Location: CAMBRIDGE, MA
 Matrix: Caulk
 Analytical Method: 97,8082A
 Analytical Date: 08/30/13 14:04
 Analyst: JW
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:15
 Date Received: 07/24/13
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/29/13 11:12
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/30/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	667	--	1	A
Aroclor 1221	ND		ug/kg	667	--	1	A
Aroclor 1232	ND		ug/kg	667	--	1	A
Aroclor 1242	ND		ug/kg	667	--	1	A
Aroclor 1248	ND		ug/kg	444	--	1	A
Aroclor 1254	4000		ug/kg	667	--	1	B
Aroclor 1260	ND		ug/kg	444	--	1	A
Aroclor 1262	ND		ug/kg	222	--	1	A
Aroclor 1268	ND		ug/kg	222	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	67		30-150	A
2,4,5,6-Tetrachloro-m-xylene	57		30-150	B
Decachlorobiphenyl	62		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-12 **D**
Client ID: WSH-CBK-014
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/29/13 12:19
Analyst: KB
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:20
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 08/28/13 05:21
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/28/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/28/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	11000	--	5	A
Aroclor 1221	ND		ug/kg	11000	--	5	A
Aroclor 1232	ND		ug/kg	11000	--	5	A
Aroclor 1242	ND		ug/kg	11000	--	5	A
Aroclor 1248	ND		ug/kg	7350	--	5	A
Aroclor 1254	229000		ug/kg	11000	--	5	B
Aroclor 1260	ND		ug/kg	7350	--	5	A
Aroclor 1262	ND		ug/kg	3680	--	5	A
Aroclor 1268	ND		ug/kg	3680	--	5	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	107		30-150	A
Decachlorobiphenyl	117		30-150	A
2,4,5,6-Tetrachloro-m-xylene	113		30-150	B
Decachlorobiphenyl	118		30-150	B

Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

SAMPLE RESULTS

Lab ID: L1313962-13
 Client ID: WSH-CBK-015
 Sample Location: CAMBRIDGE, MA
 Matrix: Caulk
 Analytical Method: 97,8082A
 Analytical Date: 08/30/13 14:17
 Analyst: JW
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:30
 Date Received: 07/24/13
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/29/13 11:12
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/30/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	612	--	3	A
Aroclor 1221	ND		ug/kg	612	--	3	A
Aroclor 1232	ND		ug/kg	612	--	3	A
Aroclor 1242	ND		ug/kg	612	--	3	A
Aroclor 1248	ND		ug/kg	408	--	3	A
Aroclor 1254	2080		ug/kg	612	--	3	B
Aroclor 1260	ND		ug/kg	408	--	3	A
Aroclor 1262	ND		ug/kg	204	--	3	A
Aroclor 1268	ND		ug/kg	204	--	3	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	54		30-150	B
Decachlorobiphenyl	61		30-150	B

Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

SAMPLE RESULTS

Lab ID: L1313962-14
 Client ID: WSH-CBK-016
 Sample Location: CAMBRIDGE, MA
 Matrix: Caulk
 Analytical Method: 97,8082A
 Analytical Date: 08/30/13 14:30
 Analyst: JW
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:35
 Date Received: 07/24/13
 Field Prep: Not Specified
 Extraction Method: EPA 3540C
 Extraction Date: 08/29/13 11:12
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/30/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	1200	--	1	A
Aroclor 1221	ND		ug/kg	1200	--	1	A
Aroclor 1232	ND		ug/kg	1200	--	1	A
Aroclor 1242	ND		ug/kg	1200	--	1	A
Aroclor 1248	2040		ug/kg	800	--	1	B
Aroclor 1254	1700		ug/kg	1200	--	1	B
Aroclor 1260	ND		ug/kg	800	--	1	A
Aroclor 1262	ND		ug/kg	400	--	1	A
Aroclor 1268	ND		ug/kg	400	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	77		30-150	A
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	75		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-15
Client ID: WSH-CBK-017
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/30/13 15:20
Analyst: JW
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:40
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3540C
Extraction Date: 08/29/13 11:12
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/30/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	1110	--	1	A
Aroclor 1221	ND		ug/kg	1110	--	1	A
Aroclor 1232	ND		ug/kg	1110	--	1	A
Aroclor 1242	ND		ug/kg	1110	--	1	A
Aroclor 1248	15000		ug/kg	741	--	1	A
Aroclor 1254	7830		ug/kg	1110	--	1	A
Aroclor 1260	ND		ug/kg	741	--	1	A
Aroclor 1262	ND		ug/kg	370	--	1	A
Aroclor 1268	ND		ug/kg	370	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	93		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-16
Client ID: WSH-CBK-018
Sample Location: CAMBRIDGE, MA
Matrix: Caulk
Analytical Method: 97,8082A
Analytical Date: 08/28/13 19:06
Analyst: KB
Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 11:45
Date Received: 07/24/13
Field Prep: Not Specified
Extraction Method: EPA 3580A
Extraction Date: 08/28/13 05:21
Cleanup Method1: EPA 3665A
Cleanup Date1: 08/28/13
Cleanup Method2: EPA 3660B
Cleanup Date2: 08/28/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	2190	--	1	A
Aroclor 1221	ND		ug/kg	2190	--	1	A
Aroclor 1232	ND		ug/kg	2190	--	1	A
Aroclor 1242	ND		ug/kg	2190	--	1	A
Aroclor 1248	ND		ug/kg	1460	--	1	A
Aroclor 1254	50000		ug/kg	2190	--	1	B
Aroclor 1260	ND		ug/kg	1460	--	1	A
Aroclor 1262	ND		ug/kg	730	--	1	A
Aroclor 1268	ND		ug/kg	730	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	136		30-150	A
Decachlorobiphenyl	144		30-150	A
2,4,5,6-Tetrachloro-m-xylene	147		30-150	B
Decachlorobiphenyl	148		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13**SAMPLE RESULTS**

Lab ID: L1313962-17 D
 Client ID: WSH-CBKD-019
 Sample Location: CAMBRIDGE, MA
 Matrix: Caulk
 Analytical Method: 97,8082A
 Analytical Date: 08/29/13 12:31
 Analyst: KB
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Date Collected: 06/20/13 10:10
 Date Received: 07/24/13
 Field Prep: Not Specified
 Extraction Method: EPA 3580A
 Extraction Date: 08/28/13 05:21
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/28/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/28/13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/kg	16000	--	10	A
Aroclor 1221	ND		ug/kg	16000	--	10	A
Aroclor 1232	ND		ug/kg	16000	--	10	A
Aroclor 1242	ND		ug/kg	16000	--	10	A
Aroclor 1248	290000		ug/kg	10600	--	10	B
Aroclor 1254	304000		ug/kg	16000	--	10	A
Aroclor 1260	ND		ug/kg	10600	--	10	A
Aroclor 1262	ND		ug/kg	5320	--	10	A
Aroclor 1268	ND		ug/kg	5320	--	10	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	A
Decachlorobiphenyl	0	Q	30-150	A
2,4,5,6-Tetrachloro-m-xylene	0	Q	30-150	B
Decachlorobiphenyl	0	Q	30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8082A
 Analytical Date: 08/28/13 19:31
 Analyst: KB

Extraction Method: EPA 3580A
 Extraction Date: 08/28/13 05:21
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/28/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/28/13

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02,12,16-17 Batch: WG632072-1						
Aroclor 1016	ND		ug/kg	2610	--	A
Aroclor 1221	ND		ug/kg	2610	--	A
Aroclor 1232	ND		ug/kg	2610	--	A
Aroclor 1242	ND		ug/kg	2610	--	A
Aroclor 1248	ND		ug/kg	1740	--	A
Aroclor 1254	ND		ug/kg	2610	--	A
Aroclor 1260	ND		ug/kg	1740	--	A
Aroclor 1262	ND		ug/kg	870	--	A
Aroclor 1268	ND		ug/kg	870	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	95		30-150	A
Decachlorobiphenyl	97		30-150	A
2,4,5,6-Tetrachloro-m-xylene	102		30-150	B
Decachlorobiphenyl	113		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8082A
 Analytical Date: 08/30/13 11:25
 Analyst: JW

Extraction Method: EPA 3540C
 Extraction Date: 08/29/13 11:12
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 08/30/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 08/30/13

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 03-09,11,13-15 Batch: WG632486-1						
Aroclor 1016	ND		ug/kg	133	--	A
Aroclor 1221	ND		ug/kg	133	--	A
Aroclor 1232	ND		ug/kg	133	--	A
Aroclor 1242	ND		ug/kg	133	--	A
Aroclor 1248	ND		ug/kg	88.5	--	A
Aroclor 1254	ND		ug/kg	133	--	A
Aroclor 1260	ND		ug/kg	88.5	--	A
Aroclor 1262	ND		ug/kg	44.2	--	A
Aroclor 1268	ND		ug/kg	44.2	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	73		30-150	B

Project Name: WILLIAM JAMES HALL**Lab Number:** L1313962**Project Number:** 226574**Report Date:** 09/03/13

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8082A
 Analytical Date: 09/02/13 20:28
 Analyst: TQ

Extraction Method: EPA 3540C
 Extraction Date: 08/31/13 01:00
 Cleanup Method1: EPA 3665A
 Cleanup Date1: 09/02/13
 Cleanup Method2: EPA 3660B
 Cleanup Date2: 09/02/13

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 10 Batch: WG633012-1						
Aroclor 1016	ND		ug/kg	145	--	A
Aroclor 1221	ND		ug/kg	145	--	A
Aroclor 1232	ND		ug/kg	145	--	A
Aroclor 1242	ND		ug/kg	145	--	A
Aroclor 1248	ND		ug/kg	96.6	--	A
Aroclor 1254	ND		ug/kg	145	--	A
Aroclor 1260	ND		ug/kg	96.6	--	A
Aroclor 1262	ND		ug/kg	48.3	--	A
Aroclor 1268	ND		ug/kg	48.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	77		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: WILLIAM JAMES HALL

Project Number: 226574

Lab Number: L1313962

Report Date: 09/03/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02,12,16-17 Batch: WG632072-2 WG632072-3									
Aroclor 1016	92		111		40-140	19		30	A
Aroclor 1260	84		99		40-140	16		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		100		30-150	A
Decachlorobiphenyl	89		102		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		100		30-150	B
Decachlorobiphenyl	98		108		30-150	B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** WILLIAM JAMES HALL**Project Number:** 226574**Lab Number:** L1313962**Report Date:** 09/03/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 03-09,11,13-15 Batch: WG632486-2 WG632486-3									
Aroclor 1016	70		77		40-140	10		30	A
Aroclor 1260	60		72		40-140	18		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		79		30-150	A
Decachlorobiphenyl	72		81		30-150	A
2,4,5,6-Tetrachloro-m-xylene	71		78		30-150	B
Decachlorobiphenyl	75		83		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: WILLIAM JAMES HALL

Project Number: 226574

Lab Number: L1313962

Report Date: 09/03/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 10 Batch: WG633012-2 WG633012-3									
Aroclor 1016	59		58		40-140	2		30	A
Aroclor 1260	60		58		40-140	3		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		62		30-150	A
Decachlorobiphenyl	75		75		30-150	A
2,4,5,6-Tetrachloro-m-xylene	60		60		30-150	B
Decachlorobiphenyl	73		72		30-150	B

Project Name: WILLIAM JAMES HALL**Project Number:** 226574**Lab Number:** L1313962**Report Date:** 09/03/13**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA**Cooler Information Custody Seal****Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1313962-01A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-02A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-05A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-06A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-08A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-09A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-11A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-12A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-13A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-14A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-15A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-16A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1313962-17A	Amber 120ml unpreserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)

*Values in parentheses indicate holding time in days

Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report



Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

Data Qualifiers

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: WILLIAM JAMES HALL
Project Number: 226574

Lab Number: L1313962
Report Date: 09/03/13

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised August 29, 2013 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP) 504.1, Ethylene Dibromide (EDB) 504.1, 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223, Enumeration and P/A), E. Coli. – Colilert (SM9223, Enumeration and P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform-EC Medium (SM 9221E).

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), E. Coli – Colilert (SM9223 Enumeration), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E), Enterococcus - Enterolert.

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, CT-Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP (Silvex), Dalapon, Volatile Organics (SW 8260), Acid Extractables (Phenols) (SW 8270), Benzidines (SW 8270), Phthalates (SW 8270), Nitrosamines (SW 8270), Nitroaromatics & Cyclic Ketones (SW 8270), PAHs (SW 8270), Haloethers (SW 8270), Chlorinated Hydrocarbons (SW 8270).)

State of Illinois Certificate/Lab ID: 003155. **NELAP Accredited.**

Drinking Water (Inorganic Parameters: SM2120B, 2320B, 2510B, 2540C, SM4500CN-CE, 4500F-C, 4500H-B, 4500NO3-F, 5310C, EPA 200.7, 200.8, 245.1, 300.0. Organic Parameters: EPA 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: SM2120B, 2310B, 2320B, 2340B, 2510B, 2540B, 2540C, 2540D, SM4500CL-E, 4500CN-E, 4500F-C, 4500H-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-E, 4500S-D, 4500SO3-B, 5210B, 5220D, 5310C, 5540C, EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1. Organic Parameters: EPA 608, 624, 625.)

Hazardous and Solid Waste (Inorganic Parameters: EPA 1010A, 1030, 1311, 1312, 6010C, 6020A, 7196A, 7470A, 7471B, 9012B, 9014, 9038, 9040C, 9045D, 9050A, 9065, 9251. Organic Parameters: 8011 (NPW only), 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8315A, 8330.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2120B, 2130B, 2320B, 2510C, 2540C, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, 5310C, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 8315A, 9010C, SM2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-C, 4500NH3-B, 4500NH3-H, 4500NO2-B, 4500NO3-F, 4500P-B, 4500P-E, 4500S2-D, 4500SO3-B, 5540C, 5210B, 5220D, 5310C, 9010B, 9030B, 9040C, 7470A, 7196A, 2340B, EPA 200.7, 6010C, 200.8, 6020A, 245.1, 1311, 1312, 3005A, Enterolert, 9223B, 9222D. Organic Parameters: 608, 624, 625, 8011, 8081B, 8082A, 8330, 8151A, 8260C, 8270D, 3510C, 3630C, 5030B, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Inorganic Parameters: 9010B, 9012A, 9014, 9040B, 9045C, 6010C, 6020A, 7471B, 7196A, 9050A, 1010, 1030, 9065, 1311, 1312, 3005A, 3050B, 9038, 9251. *Organic Parameters:* ME-DRO, ME-GRO, MA-EPH, MA-VPH, 8260C, 8270D, 8330, 8151A, 8081B, 8082A, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO₃-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. *Organic Parameters:* (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. *Microbiology Parameters:* SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH₃-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO₃-F, 353.2 for Nitrate-N, SM4500NH₃-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT,Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. *Microbiology Parameters:* (ColilertQT SM9223B; Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 300.0, SM4500CN-E, 4500H+B, 4500NO₃-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. *Organic Parameters:* 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, SW-846 6010C, 6020A, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 350.2, 351.1, 353.2, 410.4, 420.1, 426C, 1664A, SW-846 9010B, 9010C, 9030, 9040B, 9040C, SM2120B, 2310B, 2320B, 2340B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH₃-H, 4500NO₃-F, 4500NO₂-B, 4500P-E, 4500-S2-D, 4500SO₃-B, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D, 3060A. *Organic Parameters:* SW-846 3510C, 3630C, 5030B, 8260C, 8270D, 8330, EPA 624, 625, 608, SW-846 8082A, 8081B, 8015C, 8151A, 8330, 8270D-SIM.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010C, 6020A, 7196A, 7471B, 1010, 1010A, 1030, 9010C, 9012B, 9014, 9030B, 9040C, 9045C, 9045D, 9050, 9065, 9251, 1311, 1312, 3005A, 3050B, 3060A. *Organic Parameters:* SW-846 3540C, 3546, 3050B, 3580A, 3620D, 3630C, 5030B, 5035, 8260C, 8270D, 8270D-SIM, 8330, 8151A, 8015B, 8015C, 8082A, 8081B.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2064. NELAP Accredited.

Drinking Water (Organic Parameters: **EPA 524.2:** Di-isopropyl ether (DIPE), Ethyl-t-butyl ether (ETBE), Tert-amyl methyl ether (TAME)).

Non-Potable Water (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene. **EPA 8015C(M):** TPH.)

Solid & Chemical Materials (Organic Parameters: **EPA 8260C:** 1,3,5-Trichlorobenzene.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. NELAP Accredited.

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO₃-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.1, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. *Organic Parameters:* EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, 2340B, SM4500F-BC, EPA 200.7, 200.8, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO₃-F, 4500NO₂-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH₃-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 7470A, 5540C, SM4500H-B, 4500SO₃-B, SM3500Cr-D, 4500CN-CE, EPA 245.1, SW-846 9040B, 9040C, 3005A, 3015, EPA 6010B, 6010C, 6020, 6020A, 7196A, 3060A, SW-846 9010C, 9030B. *Organic Parameters:* SW-846 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 1,4-Dioxane by NJ Modified 8270, 8015B, NJ EPH.)

9050A, 9065, 9251. Organic Parameters: SW-846 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8330, 8260B, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 3540C, 3546, 3580A, 3620C, 3630C, 5030B, 5035L, 5035H, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.1, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500NO₃-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH₃-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, SM4500-NO₃-F, 4500-NO₂-B, 4500P-E, 2340B, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010C, 6020A, EPA 7196A, SM3500Cr-D, EPA 245.1, 7470A, SM2120B, 4500CN-CE, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 8315A, 3005A, 3015, 9010C, 9030B. Organic Parameters: EPA 624, 8260C, 8270D, 8270D-SIM, 625, 608, 8081B, 8151A, 8330, 8082A, EPA 3510C, 5030B, 8015C, 8011.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, EPA 6010C, 6020A, 7196A, 7471B, 8315A, 9012B, 9014, 9065, 9050A, 9038, 9251, EPA 1311, 1312, 3005A, 3050B, 9010C, 9030B, 9040C, 9045D. Organic Parameters: EPA 8260C, 8270D, 8270D-SIM, 8015C, 8081B, 8151A, 8330, 8082A, 3540C, 3546, 3580A, 5035A-H, 5035A-L.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. (*Inorganic Parameters*: SM2310B, 2320B, 4500CI-E, 4500Cn-E, 9012B, 9014, Lachat 10-204-00-1-X, 1010A, 1030, 4500NO₃-F, 353.2, 4500P-E, 4500SO₄-E, 300.0, 4500S-D, 5310B, 5310C, 6010C, 6020A, 200.7, 200.8, 3500Cr-B, 7196A, 245.1, 7470A, 7471B, 1311, 1312. Organic Parameters: 608, 8081B, 8082A, 624, 8260B, 625, 8270D, 8151A, 8015C, 504.1, MA-EPH, MA-VPH.)

*Drinking Water Program Certificate/Lab ID: 25700. (*Inorganic Parameters*: Chloride EPA 300.0. Organic Parameters: 524.2)*

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: 200.7, 200.8, 300.0, 332.0, 2120B, 2320B, 2510B, 2540C, 4500-CN-CE, 4500F-C, 4500H+-B, 4500NO₃-F, 5310C. Organic Parameters: EPA 524.2, 504.1)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1312, 3005A, 3015, 3060A, 200.7, 200.8, 410.4, 1664A, SM2540D, 5210B, 5220D, 4500-P, BE, 245.1, 300.0, 350.1, 350.2, 351.1, 353.2, 420.1, 6010C, 6020A, 7196A, 7470A, 9030B, 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 3500Cr-D, 426C, 4500CN-CE, 4500CI-E, 4500F-B, 4500F-C, 4500H+-B, 4500NH₃-H, 4500NO₂-B, 4500NO₃-F, 4500S-D, 4500SO₃-B, 5310BCD, 5540C, 9010C, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 625, 624, 608, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, 8015C, NJ-EPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3005A, 3050B, 3060A, 6010C, 6020A, 7196A, 7471B, 9010C, 9012B, 9014, 9040B, 9045D, 9050A, 9065, SM 4500NH₃-BH, 9030B, 9038, 9251. Organic Parameters: 3540C, 3546, 3580A, 3620C, 3630C, 5035, 8015C, 8081B, 8082A, 8151A, 8260C, 8270D, 8270D-SIM, 8330, NJ-EPH.)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. *NELAP Accredited via NJ-DEP.*

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commissoon on Environmental Quality Certificate/Lab ID: T104704476. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH₃-H, 4500NO₂B, 4500P-E, 4500 S²⁻ D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID: 460195. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: EPA 200.7, 200.8, 300.0, 2510B, 2120B, 2540C, 4500CN-CE, 245.1, 2320B, 4500F-C, 4500NO₃-F, 4500H+B, 5310C. Organic Parameters: EPA 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 200.7, 200.8, 245.1, 300.0, 350.1, 351.1, 351.2, 3005A, 3015, 1312, 6010B, 6010C, 3060A, 353.2, 420.1, 2340B, 6020, 6020A, SM4500S-D, SM4500-CN-CE, Lachat 10-204-00-1-X, 7196A, 7470A, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 3500Cr-D, 426C, 4500CI-E, 4500F-B, 4500F-C, 4500NH₃-H, 4500NO₂-B, 4500NO₃-F, 4500 SO₃-B, 4500H-B, 4500PE, 510AC, 5210B, 5310B 5310C, 5540C, 9010Cm

9030B, 9040C. Organic Parameters: EPA 3510C, 3630C, 5030B, 8260B, 608, 624, 625, 8011, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8260C, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330,)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1010A, 1030, 3060A, 3050B, 1311, 1312, 6010B, 6010C, 6020, , 7196A, 7471A, 7471B, 6020A, 9010C, 9012B, 9030B, 9014, 9038, 9040C, 9045D, 9251, 9050A, 9065. Organic Parameters: EPA 5030B, 5035, 3540C, 3546, 3550B, 3580A, 3620C, 3630C, 6020A, 8260B, 8260C, 8015B, 8015C, 8081A, 8081B, 8082, 8082A, 8151A, 8270C, 8270D, 8270C-SIM, 8270D-SIM, 8330.)

Department of Defense, L-A-B Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010C, 6020A, 245.1, 7470A, 9040B, 9010B, 180.1, 300.0, 332.0, 6860, 351.1, 353.2, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500Norg-C, 4500NO3-F, 5310C, 2130B, 2320B, 2340B, 2540C, 5540C, 3005A, 3015, 9056, 7196A, 3500-Cr-D. Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A, 8082A, 8081B, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010C, 6020A, 7471A, 6860, 1311, 1312, 3050B, 7196A, 9040B, 9045C, 9010C, 9012B, 9251, SM3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8015C, 8151A, 8260C, 8270D, 8270D-SIM, 8330A/B-prep, 8082A, 8081B, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

The following analytes are not included in our current NELAP/TNI Scope of Accreditation:

EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether. **EPA 8260B:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8260 Non-potable water matrix:** Iodomethane (methyl iodide), Methyl methacrylate. **EPA 8260 Soil matrix:** Tert-amyl methyl ether (TAME), Diisopropyl ether (DIPE), Azobenzene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methylnaphthalenes, Total Dimethylnaphthalenes, 1,4-Diphenylhydrazine. **EPA 625:** 4-Chloroaniline, 4-Methylphenol. Total Phosphorus in a soil matrix, TKN in a soil matrix, NO₂ in a soil matrix, NO₃ in a soil matrix. **EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

CHAIN OF CUSTODY

PAGE 1 OF 2

Serial No:09031314:29

Date Rec'd in Lab: 1/24/13

ALPHA Job #: L313960

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: Woodard + Curran

Address: 41 Hutchins Drive
Portland ME

Phone: 1hamel@wardandcurran.com

Email: amanta@i...
sergei@i...

Additional Project Information:

PCBs 8082 Soxhlet

Project Information

Project Name: William James Hall

Project Location: Cambridge MA

Project #: 226579

Project Manager: Amy Martin

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 7/31/13

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods
 ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed. Program Criteria

ANALYSIS

VOC: ☐ 8260 ☐ 824 ☐ 524.2

SVOC: ☐ ABN ☐ PAH

METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15

METALS: ☐ RCRA5 ☐ RCRA8 ☐ PPT3

EPH: ☐ Ranges & Targets ☐ Ranges Only

UPH: ☐ Ranges & Targets ☐ Ranges Only

PCB ☐ PEST 8012 Soxhlet

TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO

Filtration
☐ Field
☐ Lab to do

Preservation
☐ Lab to do

Sample Comments

THE
C
T
A
E

E
C
T
T
L
E
S

[illegible]**Container Type**

P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative

A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
Q= Other

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time: _____

All samples submitted are subject to Alpha's Terms and Conditions.
See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)



8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

CHAIN OF CUSTODY

PAGE 2 OF 2

Serial No: 09031314-29

Date Rec'd in Lab: 7/24/13 ALPHA Job #: LB3962

Project Information

Project Name: William James Hall
Project Location: Cambridge MA
Project #: 226 574
Project Manager: Amy Martin
ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program Criteria

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 7/31/13

Additional Project Information:

PCBs 8082 Soxhlet

ANALYSIS										SAMPLE INFO		TOTAL # BOTTLES
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> MCP 15	METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8	EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	PCB: <input type="checkbox"/> PEST <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint			Filtration		
										<input type="checkbox"/> Field		
										<input type="checkbox"/> Lab to do		
										Preservation		
										<input type="checkbox"/> Lab to do		
Sample Comments												

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials										
		Date	Time												
<u>13962/11</u>	<u>WJH-CBK-013</u>	<u>6/20/13</u>	<u>1115</u>	<u>Calc</u>	<u>JAR</u>										
<u>12</u>	<u>WJH-CBK-014</u>		<u>1120</u>												
<u>13</u>	<u>WJH-CBK-015</u>		<u>1130</u>												
<u>14</u>	<u>WJH-CBK-016</u>		<u>1135</u>												
<u>15</u>	<u>WJH-CBK-017</u>		<u>1140</u>												
<u>16</u>	<u>WJH-CBK-018</u>		<u>1145</u>												
<u>17</u>	<u>WJH-CBKD-019</u>	<u>6/20/13</u>	<u>1010</u>	<u>Calc</u>	<u>JAR</u>										

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

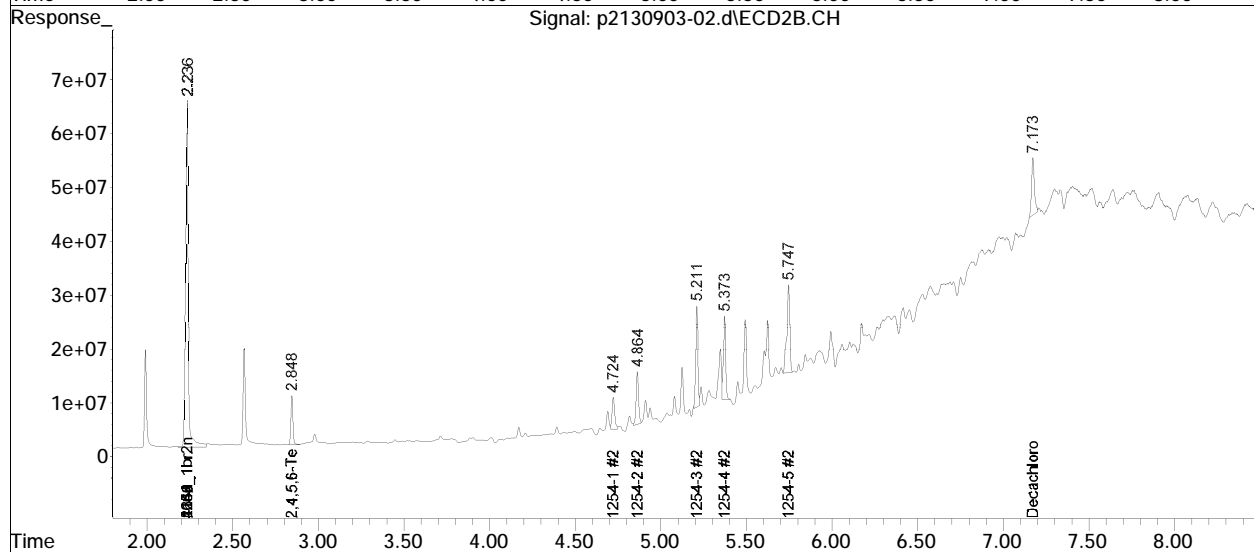
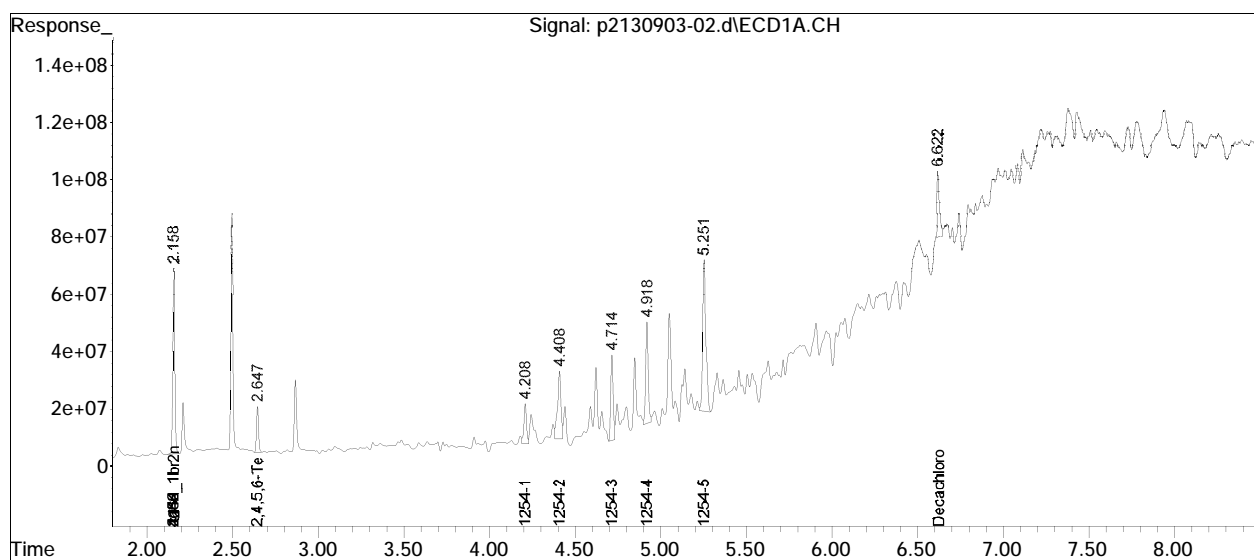
Relinquished By:	Date/Time:	Received By:	Date/Time:	All samples submitted are subject to Alpha's Terms and Conditions. See reverse side. FORM NO: 01-01 (rev. 12-Mar-2012)
<u>[Signature]</u>	<u>7/24/13 1730</u>	<u>[Signature]</u>	<u>7/24/13 1730</u>	

Sub List : Default - All compounds listed Reviewed)

Data Path : I:\Pest2\130903\
 Data File : p2130903-02.d
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 03 Sep 2013 9:42 am
 Operator : pest2: jw
 Sample : 11313962-10d,42e,5,
 Misc : wg633175,wg633012,ical8081
 ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
 Integration File signal 2: events2.e
 Quant Time: Sep 03 09:54:30 2013
 Quant Method : I:\Pest2\Methods Pest2\P2_pcb 05-16-13_ugL_.m
 Quant Title : pcb
 QLast Update : Thu Aug 29 07:40:21 2013
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal #1 Phase : Signal #2 Phase:
 Signal #1 Info : Signal #2 Info :



10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-003

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-01 D

Date(s) Analyzed: 08/29/13 08/29/13

Instrument ID (1): PEST12

Instrument ID (2): PEST12

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1248 COLUMN 1	1	3.52	-0.05	0.05	186000	507000	
	2	3.94	-0.05	0.05	431000		
	3	4.27	-0.05	0.05	718000		
	4	4.29	-0.05	0.05	691000		
	5	0.	-0.05	0.05	0.		
COLUMN 2	1	3.91	-0.05	0.05	174000	512000	1
	2	4.42	-0.05	0.05	423000		
	3	4.71	-0.05	0.05	689000		
	4	4.75	-0.05	0.05	761000		
	5	0.	-0.05	0.05	0.		
AROCLOR 1254 COLUMN 1	1	0.	-0.05	0.05	0.	529000	
	2	4.44	-0.05	0.05	672000		
	3	4.74	-0.05	0.05	500000		
	4	4.95	-0.05	0.05	518000		
	5	5.29	-0.05	0.05	428000		
COLUMN 2	1	0.	-0.05	0.05	0.	460000	14
	2	4.89	-0.05	0.05	390000		
	3	5.24	-0.05	0.05	537000		
	4	5.4	-0.05	0.05	533000		
	5	5.78	-0.05	0.05	382000		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-004

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-02 D

Date(s) Analyzed: 08/29/13 08/29/13

Instrument ID (1): PEST12

Instrument ID (2): PEST12

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1248 COLUMN 1	1	3.52	-0.05	0.05	224000	314000	
	2	3.94	-0.05	0.05	273000		
	3	4.27	-0.05	0.05	349000		
	4	4.29	-0.05	0.05	411000		
	5	0.	-0.05	0.05	0.		
COLUMN 2	1	3.91	-0.05	0.05	206000	306000	2.6
	2	4.42	-0.05	0.05	256000		
	3	4.71	-0.05	0.05	366000		
	4	4.75	-0.05	0.05	394000		
	5	0.	-0.05	0.05	0.		
AROCLOR 1254 COLUMN 1	1	0.	-0.05	0.05	0.	129000	
	2	4.45	-0.05	0.05	269000		
	3	4.74	-0.05	0.05	98100		
	4	4.95	-0.05	0.05	108000		
	5	5.29	-0.05	0.05	41800		
COLUMN 2	1	0.	-0.05	0.05	0.	89300	36.4
	2	4.89	-0.05	0.05	92600		
	3	5.24	-0.05	0.05	114000		
	4	5.4	-0.05	0.05	112000		
	5	5.78	-0.05	0.05	38400		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-010

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-08

Date(s) Analyzed: 08/30/13 08/30/13

Instrument ID (1): PEST2

Instrument ID (2): PEST2

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1254	1	4.21	-0.05	0.05	586.	607.	
	2	4.41	-0.05	0.05	755.		
	3	4.71	-0.05	0.05	475.		
	4	4.92	-0.05	0.05	480		
	5	5.25	-0.05	0.05	741.		
COLUMN 1							
COLUMN 2	1	4.74	-0.05	0.05	675.	543.	11.1
	2	4.88	-0.05	0.05	506.		
	3	5.22	-0.05	0.05	552.		
	4	5.39	-0.05	0.05	440		
	5	0.	-0.05	0.05	0.		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-011

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-09 D

Date(s) Analyzed: 08/30/13 08/30/13

Instrument ID (1): PEST2

Instrument ID (2): PEST2

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1248 COLUMN 1	1	3.72	-0.05	0.05	26800	28500	
	2	3.9	-0.05	0.05	26800		
	3	4.24	-0.05	0.05	32100		
	4	4.26	-0.05	0.05	28300		
	5	0.	-0.05	0.05	0.		
COLUMN 2	1	4.18	-0.05	0.05	29200	31800	10.9
	2	4.4	-0.05	0.05	28600		
	3	4.7	-0.05	0.05	31400		
	4	4.73	-0.05	0.05	38000		
	5	0.	-0.05	0.05	0.		
AROCLOR 1254 COLUMN 1	1	0.	-0.05	0.05	0.	14300	
	2	4.4	-0.05	0.05	21900		
	3	4.71	-0.05	0.05	16700		
	4	4.91	-0.05	0.05	12200		
	5	5.25	-0.05	0.05	6480		
COLUMN 2	1	0.	-0.05	0.05	0.	14100	1.4
	2	4.87	-0.05	0.05	17500		
	3	5.22	-0.05	0.05	16800		
	4	5.38	-0.05	0.05	12700		
	5	5.75	-0.05	0.05	9640		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-013

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-11

Date(s) Analyzed: 08/30/13 08/30/13

Instrument ID (1): PEST2

Instrument ID (2): PEST2

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1254	1	4.21	-0.05	0.05	4550	3610	
	2	4.41	-0.05	0.05	4330		
	3	4.71	-0.05	0.05	3500		
COLUMN 1	4	4.92	-0.05	0.05	2490		
	5	5.25	-0.05	0.05	3160		
COLUMN 2	1	4.74	-0.05	0.05	5580	4000	10.2
	2	4.88	-0.05	0.05	4440		
	3	5.22	-0.05	0.05	3610		
	4	5.39	-0.05	0.05	2840		
	5	5.76	-0.05	0.05	3520		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-014

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-12 D

Date(s) Analyzed: 08/29/13 08/29/13

Instrument ID (1): PEST12

Instrument ID (2): PEST12

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1254	1	4.24	-0.05	0.05	145000	229000	
	2	4.44	-0.05	0.05	190000		
	3	4.74	-0.05	0.05	240000		
	4	4.95	-0.05	0.05	263000		
	5	5.29	-0.05	0.05	308000		
COLUMN 1	1	4.75	-0.05	0.05	147000	229000	0
	2	4.89	-0.05	0.05	194000		
	3	5.24	-0.05	0.05	258000		
	4	5.4	-0.05	0.05	255000		
	5	5.78	-0.05	0.05	291000		
COLUMN 2	1	4.75	-0.05	0.05	147000	229000	0
	2	4.89	-0.05	0.05	194000		
	3	5.24	-0.05	0.05	258000		
	4	5.4	-0.05	0.05	255000		
	5	5.78	-0.05	0.05	291000		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-015

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-13

Date(s) Analyzed: 08/30/13 08/30/13

Instrument ID (1): PEST2

Instrument ID (2): PEST2

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1254	1	4.21	-0.05	0.05	1700	1920	
	2	4.41	-0.05	0.05	1950		
	3	4.71	-0.05	0.05	1880		
	4	4.92	-0.05	0.05	1530		
	5	5.25	-0.05	0.05	2530		
COLUMN 1							
COLUMN 2	1	4.74	-0.05	0.05	2220	2080	8
	2	4.88	-0.05	0.05	2120		
	3	5.22	-0.05	0.05	1980		
	4	5.38	-0.05	0.05	1590		
	5	5.76	-0.05	0.05	2480		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-016

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-14

Date(s) Analyzed: 08/30/13 08/30/13

Instrument ID (1): PEST2

Instrument ID (2): PEST2

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1248 COLUMN 1	1	3.73	-0.05	0.05	1090	1440	
	2	3.91	-0.05	0.05	1440		
	3	4.24	-0.05	0.05	1890		
	4	4.27	-0.05	0.05	1320		
	5	0.	-0.05	0.05	0.		
COLUMN 2	1	4.19	-0.05	0.05	1940	2040	34.5
	2	4.41	-0.05	0.05	1740		
	3	4.71	-0.05	0.05	1820		
	4	4.74	-0.05	0.05	2650		
	5	0.	-0.05	0.05	0.		
AROCLOR 1254 COLUMN 1	1	0.	-0.05	0.05	0.	1520	
	2	4.41	-0.05	0.05	1900		
	3	4.71	-0.05	0.05	1700		
	4	4.92	-0.05	0.05	942.		
	5	0.	-0.05	0.05	0.		
COLUMN 2	1	0.	-0.05	0.05	0.	1700	11.2
	2	4.88	-0.05	0.05	2000		
	3	5.22	-0.05	0.05	1910		
	4	5.39	-0.05	0.05	1180		
	5	0.	-0.05	0.05	0.		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-017

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-15

Date(s) Analyzed: 08/30/13 08/30/13

Instrument ID (1): PEST2

Instrument ID (2): PEST2

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1248 COLUMN 1	1	3.74	-0.05	0.05	12600	15000	
	2	3.92	-0.05	0.05	13300		
	3	4.25	-0.05	0.05	17300		
	4	4.27	-0.05	0.05	17000		
	5	0.	-0.05	0.05	0.		
COLUMN 2	1	4.19	-0.05	0.05	11400	14200	5.5
	2	4.41	-0.05	0.05	11400		
	3	4.7	-0.05	0.05	16000		
	4	4.74	-0.05	0.05	18000		
	5	0.	-0.05	0.05	0.		
AROCLOR 1254 COLUMN 1	1	0.	-0.05	0.05	0.	7830	
	2	4.42	-0.05	0.05	11800		
	3	4.72	-0.05	0.05	8150		
	4	4.93	-0.05	0.05	6360		
	5	5.26	-0.05	0.05	4970		
COLUMN 2	1	0.	-0.05	0.05	0.	7100	9.8
	2	4.88	-0.05	0.05	8780		
	3	5.22	-0.05	0.05	7500		
	4	5.39	-0.05	0.05	6190		
	5	5.76	-0.05	0.05	5930		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBK-018

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-16

Date(s) Analyzed: 08/28/13 08/28/13

Instrument ID (1): PEST12

Instrument ID (2): PEST12

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1254	1	4.24	-0.05	0.05	36200	45900	
	2	4.43	-0.05	0.05	42700		
	3	4.74	-0.05	0.05	42200		
	4	4.95	-0.05	0.05	50300		
	5	5.29	-0.05	0.05	57900		
COLUMN 1							
COLUMN 2	1	4.75	-0.05	0.05	33400	50000	8.6
	2	4.88	-0.05	0.05	38300		
	3	5.24	-0.05	0.05	55000		
	4	5.4	-0.05	0.05	58700		
	5	5.78	-0.05	0.05	64400		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X

10B
GC ORGANICS IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

SAMPLE NO.

WSH-CBKD-019

Lab Name: Alpha Analytical Labs

SDG No.: L1313962

Lab Sample ID: L1313962-17 D

Date(s) Analyzed: 08/29/13 08/29/13

Instrument ID (1): PEST12

Instrument ID (2): PEST12

GC Column (1): CLP-Pesticides

GC Column (2): CLP-Pesticides2

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%RPD
=====	=====	=====	=====	=====	=====	=====	=====
AROCLOR 1248 COLUMN 1	1	3.52	-0.05	0.05	97900	273000	
	2	3.94	-0.05	0.05	221000		
	3	4.27	-0.05	0.05	383000		
	4	4.29	-0.05	0.05	391000		
	5	0.	-0.05	0.05	0.		
COLUMN 2	1	3.91	-0.05	0.05	90200	290000	6
	2	4.42	-0.05	0.05	214000		
	3	4.71	-0.05	0.05	407000		
	4	4.75	-0.05	0.05	450000		
	5	0.	-0.05	0.05	0.		
AROCLOR 1254 COLUMN 1	1	0.	-0.05	0.05	0.	304000	
	2	4.44	-0.05	0.05	343000		
	3	4.74	-0.05	0.05	295000		
	4	4.95	-0.05	0.05	318000		
	5	5.29	-0.05	0.05	260000		
COLUMN 2	1	0.	-0.05	0.05	0.	282000	7.5
	2	4.89	-0.05	0.05	232000		
	3	5.24	-0.05	0.05	325000		
	4	5.4	-0.05	0.05	318000		
	5	5.78	-0.05	0.05	252000		

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

FORM X